

(Pages : 4)



P – 1281

Reg. No. :

Name :

Second Semester B.Sc. Degree Examination, September 2022

First Degree Programme under CBCSS

Botany

BO 1221 – METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCES

(2020 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

(Draw diagrams wherever necessary)

SECTION – A

Answer all questions in one or two sentences. Each question carries 1 mark.

Write short notes on:

1. Scientific temper
2. Inductive reasoning
3. Ogive
4. Range
5. Coefficient of variation
6. SEM
7. Maceration

P.T.O.

8. PAGE
9. Freeze drying
10. Rf value.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** of the following. Each question carries **2** marks.

11. State any two laws of science.
12. Differentiate between null hypothesis and alternate hypothesis.
13. List down the formulae for standard deviation.
14. Differentiate between frequency curve and frequency polygon.
15. What is a mounting media? Give two examples.
16. List the principle and applications of camera lucida.
17. Write down the preparation of acetocarmine and its uses.
18. What is dehydration? Cite any two dehydrating agents.
19. What is TLC? Mention its applications.
20. What are cryoprotectants? Give two examples.
21. What are buffers? Mention its uses in biological systems.
22. What is differential centrifugation?
23. What are fixing agents?
24. Comment on fixed angle rotors.
25. Give an account of microsome uses?
26. How is freeze drying of samples done?

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** of the following. Each question carries **4** marks.

27. Explain the steps in scientific method.
28. What is knowledge? Mention different types of knowledge.
29. Write down the formula for chi square test. Mention its assumptions and applications.
30. What is a bar diagram? Add a note on different types of it.
31. What is random sampling? Explain various categories of random sampling.
32. Write down the composition of Carnoy's fluid and FAA.
33. Compare and contrast smear and squash preparation in cytology.
34. Explain the working and principle of pH meter.
35. Describe the principle and applications of colorimeter.
36. Briefly describe lyophilisation and its application.
37. Comment on D.P.X.
38. Differentiate between simple and compound microscope.

(6 × 4 = 24 Marks)

SECTION – D

Write essay on any **two** of the following. Each question carries **15** marks.

39. Write a detailed account on serial sectioning and its importance in microtechnique.
40. Briefly explain different types of measures of central tendencies used in biostatistics.

41. Critically analyze the importance of ethics in science.
42. What is a centrifuge? Add a note on different types of rotors used in a centrifuge.
43. Briefly explain a whole mount preparation.
44. What is a principle of a UV-vis spectrophotometer.

(2 × 15 = 30 Marks)
